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10/698,448

11/03/2003

David Sparrowe

MERCK-2775

3497

23599

7590

05/02/2007

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.

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EXAMINER

LISTVOYB, GREGORY

ART UNIT

PAPER NUMBER

1711

MAIL DATE

DELIVERY MODE

05/02/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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# Office Action Summary

Application No.

10/698,448

Applicant(s)

SPARROWE ET AL.

Examiner

Gregory Listvoyb

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 21-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 18-20 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 03/08/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

Examiner agrees with the Applicant's position (Remarks from 2.14/07) and withdraw the Restriction Requirement mailed on 1/24/07.

**DETAILED ACTION**

***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-17 and 21-26, drawn to an electronic device, classified in class 523, subclass 456.
- II. Claims 18-20, drawn to method of making, classified in class 523, subclass varies.

The inventions are distinct, each from the other because of the following reasons:

Inventions of Group I and Group II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the amine –containing layer can be prepared by another and materially different process.

For instance, Guillet et al (US publication 2005/0048803) discloses a method for preparing a dielectric layer in electronic device comprising dissolution polymers in a solvent, spin-coating it onto a substrate, drying the composition under vacuum, re-coating the composition onto a gold substrate, crosslink the dielectric (Example 2).

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

During a telephone conversation with Brion Heaney on 4/26/07 a provisional election was made with traverse to prosecute the invention of Sparrowe et al, claims 1-17 and 21-26. Affirmation of this election must be made by applicant in replying to this Office action. Claims 18-20 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 102***

Claims 1-9 rejected under 35 U.S.C. 102(b) as being anticipated by Shipley et al (US publication 2001/0006759) herein Shipley.

Shipley discloses a composition with low dielectric constant for circuit manufacture (Page 1, line 0004, 0006, 0008, 0009), where dielectric layer formed with cross-linkable melamine formaldehyde resin Cymel 303 (page 11, line 0096), which is identical to one used in the Application examined (see page 24, mixture M1 of the Application). Also, Cymel 300, 301, 350, 370, 380, 1116 and 1130 can be used (Page 5, line 0039). The above resins are typically ethers, such as trialkylol melamine or hexaalkylol melamine (Page 5, line 0040).

Since Shipley discloses the same polymerizable amine as one in the Application examined all the structural features of the amine disclosed in Claims 2-9 of the Application are met.

Claims 1-17 and 21-26 rejected under 35 U.S.C. 102(b) as being anticipated by Sinclair et al (US patent 6462107) herein Sinclair.

Sinclair discloses a composition with low dielectric constant for circuit manufacture (Page 1, line 10), where dielectric layer formed with cross-linkable melamine formaldehyde resin Cymel 303 (Example 4), which is identical to one used in the Application examined (see page 24, mixture M1 of the Application).

Since Sinclair discloses the same polymerizable amine as one in the Application examined all the structural features of the amine disclosed in Claims 2-9 of the Application are met.

Regarding Claims 10-12, Sinclair discloses 10-50% of film-forming polymer, such as the above Cymel 303, 20-60% of epoxy resin, capable of reacting with the diamine, 0.01-5% of polymerization catalyst and a solvent (Column 4, line 20).

In reference to Claims 13 and 14, Sinclair teaches a composition comprising 1-50% of superfine (0.5-2  $\mu\text{m}$ ) fillers (Column 31, line 30).

Since the structure of the amine used are identical in the Reference and the application, the limitations of Claims 21-26 are met.

Claims 1-12, 15-16 and 21-26 rejected under 35 U.S.C. 102(e) as being anticipated by Guillet et al (US publication 2005/0048803) herein Guillet.

Guillet discloses a composition with low dielectric constant for electronic component (Abstract), where dielectric layer formed with cross-linkable melamine formaldehyde resin 55% Cymel (Example 2), which is identical to one used in the Application examined (see page 24, mixture M1 of the Application), 35% of PVDC/PAN/PMMA and 10% of acid catalyst in dioxane.

Since the structure of the amine used are identical in the Reference and the application, the limitations of Claims 21-26 are met.

***Claim Rejections - 35 USC § 103***

Claims 1-12 and 20-26 rejected under 35 U.S.C. 103(a) as being unpatentable over Gardon et al (US patent 5175227) herein Gardon in combination with Knudsen et al (US publication 2002/0176989) herein Knudsen.

Gardon discloses a composition formed with cross-linkable melamine formaldehyde resin up to 50% of Cymel 303 as well as Cymel 1135 and 325 (Column 6, line 35, Example 9 and Claim 20), which is identical to one used in the Application examined (see page 24, mixture M1 of the Application), 40-80% of polyurethane (Column 6, line 5), 0.1-5% of acid catalyst (Column 6, line 65) and a solvent.

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Since the structure of the amine used are identical in the Reference and the application, the limitations of Claims 21-26 are met.

Gardon does not teach the use of the above composition as an electronic device.

Knudsen discloses a cross-linked polyurethane based material used as a dielectric layer in an electronic device (Abstract, Page 5, line 0051).

Since Gardon's composition has an excellent acid etch resistant and low dielectric constant, it would be obvious to a person with ordinary skills in the art to use it in Knudsen's electronic device.

Claims 1-12 and 20-26 rejected under 35 U.S.C. 103(a) as being unpatentable over Saunders et al (US patent 4291130) herein Saunders in combination with Imken et al (US patent 5198693) herein Imken.

Saunders discloses a composition formed with cross-linkable melamine formaldehyde resin up to 50% of Cymel 303 (Column 2, line 50, Column 3, line 35 and Example 1), which is identical to one used in the Application examined (see page 24, mixture M1 of the Application), 20-60% of acrylate (Column 2, line 5) and a solvent (Example 1).

Since the structure of the amine used are identical in the Reference and the application, the limitations of Claims 21-26 are met.

Saunders does not teach the use of the above composition as an electronic device.

Imken discloses a cross-linked melamine-acrylate based material used as a dielectric layer in an electronic device (Abstract, Figure 8).

Since Gardon's composition has an excellent solvent resistivity and low dielectric constant, it would be obvious to a person with ordinary skills in the art to use it in Imken's electronic device.

Claims 1-12 and 20-26 rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al (US patent 5330840) herein Chen in combination with Knudsen.

Chen discloses a composition formed with cross-linkable melamine formaldehyde resin 2-80% of Cymel 303 as well as Cymel 380 and 385 (Column 6, line 5 and Claim 3), which is identical to one used in the Application examined (see page 24, mixture M1 of the Application), 25-60% of polyurethane-siloxane (Column 6, line 5 and Claim 1), 0.001-1% of acid catalyst (Column 7, line 5) and a solvent.

Chen does not teach the use of the above composition as an electronic device.

Knudsen discloses a cross-linked polyurethane based material used as a dielectric layer in an electronic device (Abstract, Page 5, line 0051).

Since Chen's composition has an excellent flexibility, adhesion to a metal surface and low dielectric constant, it would be obvious to a person with ordinary skills in the art to use it in Knudsen's electronic device.

### ***Double Patenting***

Claims 1-17 and 21-26 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 11/501724 in view of Sinclair.

A formulation, disclosed in Application No. 11/501724 is substantially the same as one in the Application examined. The only use of the composition as an electronic device is missing in the above copending application.

Sinclair discloses a composition with low dielectric constant for circuit manufacture (Page 1, line 10), where dielectric layer formed with cross-linkable melamine formaldehyde resin Cymel 303 (Example 4), which is identical to one used in the Application examined (see page 24, mixture M1 of the Application).

Therefore, it would be obvious to a person with ordinary skills in the art to use composition from Application No. 11/501724 as a dielectric layer in electronic device.

This is a provisional obviousness-type double patenting rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory Listvoyb whose telephone number is (571) 272-6105. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory Listvoyb

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Examiner  
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A handwritten signature in black ink, appearing to read 'J. Seidleck', is positioned above the printed name.

James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700